cololid droplets (necessarily checking each cell in three serial sections).

Seeking a simpler technique, it was found that fixing the gland (unstimulated) in glutaraldehyde, double embedding in celloidin and paraffin, and staining with PA-Schiff-hematoxylin, one cell population (resembling follicular cells) revealed distinct PA-Schiff-chromophilic cytoplasm, and another population (rsembling light cells) chromophobic cytoplasm. To prove that every chromophobic cell represented a light cell, eight adult rats were injected with TSH; not one of 500 chromophobic cells (examined in serial sections) contained colloid droplets. To prove that light cells were quantitatively represented by chromophobes, the incidence of light cells assessed by the standard method (5.8–6.1%) in one lobe of each of four rats (injected with TSH) was compared with the incidence of chromophobes assessed by the new technique (5.6–6.2%) in the other lobe. Upon examining 3000 parenchymal cells, there was no statistical difference ($p < 0.01$). Thus, the new technique is considered valid for the accurate identification and counting of light cells. (Supported by the National Cancer Institute of Canada.)

NAIDU*, K. J. R., Kermit CHRISTENSEN and B. BHAGAT*, Departments of Anatomy and Physiology, St. Louis University, St. Louis, Missouri. *Fluorescence and autoradiographic study of the necrotic heart.*

In the albino rat, the envolvement of myocardial necrosis following a single injection of isoproterenol (5.25 mg/kg, s.c.) was shown, previously, to be accompanied by myocardial hypertrophy; a fall in total catecholamines; no change in uptake of H^3-norepinephrine and a decreased capacity to retain H^3-norepinephrine (Shou et al., Fed. Proc. 27: 413, 1968). In order to characterize these changes, necrotic hearts were processed for fluorescence microscopic and autoradiogarphic studies. Intensity of fluorescence, characteristic of catecholamines in the monoaminergic nerves was considerably reduced as compared to the control. Subcellular studies indiacte that the defect in storage of H^3-norepinephrine is in the granular fraction. This was further confirmed by autoradiographic procedure. (Supported by a grant from Tobacco Research Council.)

NEBES*, Robert, J. E. BOGEN and R. W. SPERRY, Division of Biology, California Institute of Technology, Pasadena, California, and Ross-Loos Medical Group, Los Angeles, California. *Variations of the human cerebral commissurotomy syndrome with birth injury in the dominant arm area.*

The effect of long standing cerebral damage upon the syndrome typically produced by surgical division of the forebrain commissures in man was investigated in a young patient of P. J. Vogel. While this body is predominantly right handed, moderate sensory and motor deficits in right hand function had always been present caused apparently by cerebral birth injury. His seizures typically started in the right hand area. The symptom pattern of this subject different from previous commissurotomy cases in higher levels of performance in cross integration tasks involving use of the left hand. These include verbal description and naming of objects tactually perceived with the left hand, cross retrieval through left hand stereognosis of objects the picture or name of which had been presented visually to the minor hemisphere, and cross matching from one to the other hand for somesthetic qualities. Functional compensation in the ipsilateral projection systems appears to provide the most plausible explanation. The subject also showed the ability to write in script with the left hand short words projected tachistoscopically in printed form to the minor hemisphere. This minor-hemisphere writing was apparently performed without cognizance of the major hemisphere, as the subject could not verbally name the word he had written. (Supported by NIH grant MH 3373.)

NETZLOFF*, Michael L., and Stanley KAPLAN, Department of Anatomical Sciences, College of Medicine, University of Florida, Gainesville, Florida 32601. *Effects of a teratogen on the Q_{o_2} of dispersed embryonic cells.*

Pregnant rats were fed a synthetic diet containing the folic acid antagonist, 9-methyl pteroylglutamic acid, over days 10, 11 and 12 of pregnancy. This regimen previously has been shown to result in: 1) a high incidence of congenital malformations at term and, 2) an elevated oxygen consumption by intact rat embryos on day thirteen of gestation. Control animals were fed stock diet and all pregnant rats were sacrificed by cervical dislocation on day thirteen. Dispersed embryonic cells were prepared by passing the embryo through a Millipore filter holder several times (pore size approximately 0.3 mm). Oxygen consumptions were measured using the direct Warburg technique.

Previous investigations using intact embryos were hampered by restrictions to oxygen diffusion imposed either by thick layers of tissue or by inability of the yolk sac circulation to adequately transport oxygen to the embryo. The dispersed embryonic cells obviated these difficulties.

The purpose of the current investigation was to seek, at a cellular level, Q_{o_2} differences similar to those previously observed in complex embryo-in-yolk-sac preparations.

Indeed, the experimental cellular respiratory rates exceeded those for control cell suspensions at a 95% level of significance. Thus, the increase in Q_{o_2} previously observed in intact embryo-in-yolk-sac preparations has now also been confirmed at a cellular level. (Supported by NIH grant HD-00109 and GM 00579 and PHS grant 5-S01-FR-05362-07.)

NEWTON*, J. Ronald, and Sherwood M. REICHARD, Division of Radiobiology, Medical College of Georgia, Augusta, Georgia. *Nucleoprotein changes induced by trauma.*

Histones, a group of basic proteins associated with the genetic material, may play an important